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ABSTRACT

This study was a secondary analysis of data from the Prenatal/Early Infancy Project (PEIP), a randomized clinical trial of nurse home visits for socially disadvantaged families in a semi-rural community in upstate New York. A sample of 141 primiparous women between 13 and 21 years, unmarried and from lower socioeconomic backgrounds, was selected from the PEIP data set for inclusion. Eighty-four percent of the mothers were White and 16 percent were Black. The control group consisted of families who received either infant developmental screening and referral only or free transportation to prenatal and well-child visits in addition to screening. The intervention group was comprised of families who received varying numbers of nurse home visits. Results of the analysis indicated that nurse-visited mothers were more likely than control group mothers to expect high levels of social support from significant others with child care and household chores. Black mothers in the control group reported more support for chores during pregnancy and in the postpartum period than did Black or White mothers in the nurse-visited group. Mothers in the treatment group more frequently reported being accompanied during labor and reported higher partner interest in their child at 6, 10, and 22 months than mothers in the control group. Black mothers in the nurse-visited group were more likely than other mothers to have consistent male partner interest over time. White mothers in the same group had higher expectations than other mothers for tangible support during intake and for experiencing more support during labor. (Contains 29 references.) (KDFB)

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The Differential Impact of a Comprehensive Early Intervention Program on the Level of Support Received by African-American and White Adolescent Mothers.

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Introduction

Concern over the plight of the American family is an issue of considerable discussion and debate. Current social conditions have made it increasingly difficult for families to sustain themselves without the support of others. Nowhere is this more evident than in the case of adolescent and out-of-wedlock births. Increases in the birth rates among young, unmarried women have reportedly resulted in a disproportionate number of children conceived and reared in familial, societal, and economic conditions that are less than optimal for healthy growth and development (Brooks-Gunn & Chase-Lansdale, 1991; Coates & Van Widenfelt, 1991; Furstenberg, 1976; Prenatal/Early Infancy Project [PEIP] Final Report, 1983). Evidence of the long-term consequences of early and out-of-wedlock parenting show fairly consistent and enduring disadvantages for both mother and child.

This is coupled with the fact that a disproportionate number of adolescent pregnancies take place outside the confines of marriage (estimates range from 65% to 80%). When examining these trends across racial lines, the complexity of the issue grows markedly. Black teenagers arguably have the highest fertility rate of any teenage population in the world (Davis, 1988), a problem compounded by an out-of-wedlock pregnancy rate estimated at 91.2% (Rosenbaum, Layton, & Liu, 1991). During a time of general decline in the nation's infant mortality rate, the rate at which Black infants were dying during their first year of life remained equal to about twice that of Whites. And, although rates of non-marital pregnancy for Black youth remained relatively stable while those of Whites increased steadily in recent decades, the rate of birth among Black teenagers is still nearly double that of White adolescents.

The social context in which pregnancy takes place and the availability of social support have been shown to have important implications for the adaptation to and performance in the parenting role. Several researchers (e.g., Colletta, 1981; Crockenberg, 1987; Furstenberg, 1976) have found social support from significant others to positively impact upon the parenting practices of young mothers, and ultimately, on the developmental outcomes of children. Social support has been found to be a significant predictor of maternal adjustment to the parenting role (Unger & Wandersman, 1988), parent satisfaction (Wandersman, Wandersman, & Kahn, 1980), more positive attitudes and behaviors (Crnic, Greenberg, Robinson, & Ragozin, 1984), and reduced feelings of depression and anxiety (Barrera, 1981; Turner, Grindstaff, & Phillips, 1990).

In the absence of support, mothers tend to be less involved with and less emotionally and verbally responsiveness to their children (Garcia-Coll, Hoffman, Van Houten, & Oh, 1987; LeResche, Strobing, Parks, Fisher, & Smerigilio, 1988; McAnarney, Lawrence, Ricciuti, Polley, & Szilagiyi, 1986). In addition, there is evidence to suggest that these mothers tend to exhibit more hostile, punitive, and rejecting maternal behavior patterns and attitudes (Colletta, 1981; Crockenberg, 1987; Reis & Herz, 1987; Stevens & Duffield, 1986).

Support interventions have emerged in response to the need for support among American families. These interventions grow out of a paradigm that promotes the provision of family-centered services. Studies of their effectiveness have not, however, yielded entirely positive results due to rather narrow definitions of the support construct (Olds & Kitzman, 1990). While social intervention programs provide services labeled "social support," relatively few studies have examined the independent or mediating effect of this construct. Measuring social support as a mediating or possible outcome variable allows for

the exploration of causal relationships within the context of early interventions (Weiss, 1988).

The purpose of this study was to investigate the effect of the PEIP on social support among poor, unmarried adolescent mothers. In addition, the study sought to assess change in social support over time. The study also examined the extent to which the PEIP impacted social support as function of race to determine how the support networks of Black and White women differed, if at all. The specific objectives of the study are listed below:

1) Determine differences in the impact of the intervention on and in the support networks of Black and White adolesent mothers.

2) Determine whether social support is enhanced over time as a function of nurse home visits.

Method

The current study is a secondary analysis of data drawn from the Prenatal/Early Infancy Project (PEIP), a randomized clinical trial of prenatal and postnatal nurse home visits for socially disadvantaged families in a semi-rural community in Upstate New York. A sample of 141 women bearing their first child and meeting the risk criteria -- young, single, and poor -- was drawn from the PEIP data set for inclusion in the present study. Women ranged in age from 13-21 years, were unmarried at the time of the intervention, and fell into Hollingshead's social classes IV and V (semiskilled and unskilled laborers). Eighty-four percent of the sample were White (N=118) and 16% were Black (N=23).

Participating families were randomly assigned to one of the following treatment conditions:

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Treatment 1: Families received no services. Infants underwent sensory and developmental screening at 1 and 2 years. Children with suspected problems were referred to specialists for further evaluation and treatment.

Treatment 2: Families received sensory and developmental screening. Free transportation provided to prenatal and well-child visits.

Treatment 3: Bi-weekly nurse-home visits of approximately one hour and 15 minutes (nine visits) provided to families during pregnancy as well as screening and transportation services.

Treatment 4: Families received nurse home visits throughout their pregnancies and until their babies reached 2 years old. Weekly visits during the month immediately following diminished over time to every six weeks when infants were 18-24 months.

Treatment groups 1 and 2 comprised the control group and accounted for 46% (N=65) of the sample. Due to the paucity of Black cases in the data set, treatments 3 & 4 were combined to compose the nurse-visited group. Fifty-four percent (N=76) of the sample were assigned to the nurse-visited group. Black mothers accounted for less than 20% of cases irrespective of treatment condition (14% in the control group, and 18% in the nurse-visited group). Estimates of treatment differences were based on the contrast between women who received nurse home visits and those who did not. Due to the possible confounding effect of the child's birthweight, it was controlled in all analyses.

Social Support Operationalized

Table 1 shows support variables measured in the analyses. Social support was used primarily to measure functional/instrumental support. Analyses were restricted largely to measures of this particular type of support, as most of the available data were of this nature. However, a measure of emotional support was

also included in the study. Where data were available, information about the source of support was also provided.

Methods of Analysis

Simple descriptive statistics and multiple regression were employed for analyses of these data. Descriptive statistics and correlations have been conducted to evaluate the distributional characteristics of the variables, as well as to investigate the directions and strengths of relationships between variables [produced using SAS]. Results of the correlations indicate that support variables were marginally to significantly related to one another (from .10 to .70). Multiple regression was also employed test the direct effects of race and the PEIP on outcome variables and to examine the moderating effect of race on PEIP and social support among Black and White adolescents.

Cross-tabulation procedures were also employed to determine estimates of poor, unmarried teenage mothers as a function of treatment condition and race. Chi-square statistics were used to test the null hypothesis of independence between the variables of interest. Although the analysis procedure yielded three different chi-square statistics, the results presented from the present study are based on the Pearson chi-square statistic.

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Table 1. Support Variables

Variable Label	Assessment Period
Labor/Delivery	Intake
Labor	Hospital
Delivery	Hospital
Reaction to & Level of Interaction with Infant (assessed using four scales)	Hospital
Child care	Intake 6 months 10 months 22 months
Chores	Intake 8 months of pregnancy 6 months 10 months 22 months
Husband/boyfriend Interest	Intake 8 months of pregnancy 6 months 10 months 22 months
Source of Support (assessed for labor/delivery, child care, & chores)	Intake

Limitations of the Data

The major limitation of this study was the difficulty reconstructing original variables. Code books were not available to identify variables or to clarify the time period at which specific variables were assessed. Variables were identified by matching labels assigned in the data set with response options from questionnaires used in the original study. When this method failed to produce appropriate

variables for this study, identification and clarification was provided by the Principal Investigator (PI) of the PEIP. It was, at times, difficult to recall specific variable codes and to identify variables at each time period due to the time elapse since the original study.

Results

The data presented here suggest some effects for the PEIP, even though the evidence was not always strong and in the expected direction. It appears as though considerable differences existed between treatment and control groups, as well as between White and Black adolescent mothers. Table 2 shows a chronological summary of significant main effects by treatment group and race.

As the table indicates, nurse-visited mothers were much more likely than their control group counterparts to expect that they would receive high levels of support with child care and household chores. However, only Black control group mothers were found to actually receive significant levels of such support. More specifically, results show that Black adolescents in the control group reported more support for chores at the 8th month of pregnancy and at the 6 and 22 month assessments than Black or White mothers in the nurse-visited group. Significant levels of child care support were also found for this group when their infants were 6 months of age.

Table 2. Chronological Summary of Significant Main Effects, by Treatment Group and Race

Time Period	Variable Name	Reports of Most Support Nurse-Visited Moms
Intake	Chore support	White moms ($p<.05$)
	Child care support	Entire sample ($p< .01$) White moms ($p< .05$)
Hospital	Labor support	Entire sample ($p<.05$) White moms ($p<.10$)
6 months	Husb/bf interest	Entire sample ($p<.001$) Black moms ($p<.01$) White moms ($p<.01$)
10 months	Husb/bf interest	Black moms ($p<.05$)
22 months*	Husb/bf interest	Entire sample ($p<.001$) Black moms ($p<.05$)

Time Period	Variable Name	Reports of Most Support Control Group Moms
8 months of pregnancy	Chore support	Entire sample ($p<.10$) Black moms ($p<.10$)
6 months	Child care support	Black moms ($p<.10$)
	Chore support	Entire sample ($p<.05$) Black moms ($p<.10$)
22 months	Chore support	Black moms ($p<.10$)

* based on regression analysis only

Adolescent mothers in the treatment group reported being accompanied during labor much more frequently than adolescents in the control group. In addition, treatment group mothers reported significantly greater levels of

husband/boyfriend interest in their child at 6, 10, and 22 months. Differences by race suggest that Black adolescents in the nurse-visited group were more likely to experience consistent male partner interest over time, with reportedly high levels of interest at each of the postpartum assessment periods. White adolescents in the same group were found to have higher expectations for tangible support at intake and to experience more support during labor.

Discussion

Although significant main effects of the program were found, there appeared to be a paucity of evidence for a main effect of the program on women after the birth of their children. Results do not show a great deal in terms of an independent effect of the PEIP on women in statistically significant and consistent ways over time. The exception was husband/boyfriend interest, for which program effects were found over time for all nurse-visited mothers (irrespective of race).

While there is no way to accurately account for differences between groups at intake, at least two explanations are possible. First, it is likely that knowledge of involvement in the study led to increased expectations on the part of nurse-visited mothers. That is, the treatment may have had an unintended effect on mothers that resulted in women in this group expecting that with treatment they would necessarily have high levels of support over the course of the study. Alternatively, it is possible that these are merely random effects. This unexpected difference between treatment and control group mothers suggests the need for further exploration and research.

The first actual impact of the PEIP was found for labor support at the hospital. White adolescents, in particular, were found to have a support person with them during labor much more frequently than were Black adolescents in the same group. Support for White mothers in the treatment group reached

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significance at p<.10. While this finding may be an artifact of pre-intervention differences in the level of support received by nurse-visited and control group adolescent mothers, it is more likely the case that receiving home visits designed to educate young women and members of their support network about healthy maternal and child outcomes played an important role in support received during labor.

There was only one significant main effect of the early intervention program on poor, unmarried adolescent mothers over time. Contingency table analyses as well as multiple regression procedures revealed significant findings in support of the PEIP with regard to male partner interest. It appears as though being assigned to the nurse-visiting condition increased the likelihood that male partners would take a more active interest in the newborns. The level of interest expressed prior to delivery (i.e., in the pregnancy) seemed to predict the level of husband/boyfriend interest at the child's sixth month of life.

Analyses of the effect of race on social support reveal that poor, unmarried White teenagers assigned a nurse were significantly more likely to anticipate support with child care and household chores (p<.05) than were their counterparts in the control group. This finding would seem to be attributed to the fact that husband or boyfriend support among White teenagers in the nurse-visited group exceeded that of their control group counterparts prior to the provision of services. It makes sense that if nurse-visited teenagers felt as though they were supported during the early stages of their pregnancies, their rates of continued support would necessarily surpass those of controls who had already reported less support from members of their network.

The number of poor, unmarried Black teenagers in the control group (p<.10) who expected to receive a lot of support with household chores at 8 months of

pregnancy, chore support at 6 and 22 months, and assistance with child care at their children's 6 months of life was marginally significant and is perhaps more difficult to explain. In spite of initial parental disapproval and rejection about pregnancy, Black mothers experience a marshaling of support from the extended family system. Barth (1988), Barth et al. (1983), Mayfield-Brown (1989), and Stevens (1988) have found that Black adolescents not only depended on their families more frequently but also received more support from this source than White mothers. With that in mind, it could be argued that Black adolescents in the control group underestimated the level of support they would likely receive due to the reactions to the news of their pregnancies. According to Thompson (1986), the initial reaction of the parents of Black adolescents is less than positive. The fact that support network members rallied around Black adolescents in the present study once the child arrived and remained consistently helpful over time is in keeping with reports from the above researchers.

It is also conceivable that as the date for delivery approached, the need to prepare the home physically for the arrival of the child could have prompted increased support for chores. This would be particularly true if adolescent mothers were living with their parents. The level of expected support with household chores would naturally increase if assistance had begun to be provided with such tasks in anticipation of the child's birth. This is consistent with reports from other researchers.

An explanation of the reason(s) why similar results were not found for Black adolescents in the nurse-visited group may simply be that the support network believed that adolescents' involvement in the intervention precluded their involvement. That is to say, members of the support network may have assumed that involvement in such a project served the function of family or other support.

Or, at the very least, was a vehicle through which adolescents could learn how to manage the responsibilities of motherhood independently. If this were true, it would make sense that support for child care and chores was visibly absent while male partner interest increased. If, in fact, it is the case that family members largely provide these forms of support, the absence of it could well be the result of family members wanting to encourage independence among young mothers.

In so doing, family members may have played a secondary role to husbands or boyfriends with respect to being involved in home visits. That would certainly help to explain the high levels of interest in children among male partners. The lack of evidence for tangible male partner support over time may be interpreted as a premature goal in light of the relatively high level of absent teenage fathers and the fact that most young mothers reside with their parents (and expect their support first and foremost).

There was evidence, however, of increased interest on the part of male partners. A comparison of husband/boyfriend interest in pregnancy and amount of interest shown in the child during the first two years of life indicate that poor, unmarried Black adolescents assigned to the nurse-visited group were more likely to report greater male partner interest in their pregnancies at intake but not at 8 months of pregnancy. These findings are consistent with Olds, Henderson, Chamberlin, & Tatelbaum (1988) and suggest a positive impact of home visitation on husband/boyfriend interest in the pregnancies and children of Black adolescent mothers.

Increased interest in children, unfortunately, did not translate into additional help with child care or chore support. While level of interest was found to be significant for all nurse-visited groups, with over time effects for Black mothers in particular, no significant main effects were found for other types of

support. It may be the case that a number of potential supports for nurse-visited adolescents distanced themselves from the young mother and her newborn under the assumption that the nurse-visits were formal and geared more toward immediate support network members like family and male partners. Since these group were the primary focus of nurses, it is possible that that message may have been conveyed in some way to other, more distant support network members (e.g., friends or relatives). A more appropriate explanation for this finding cannot be offered, as there are no data in the literature that speaks to it.

While the results of this study are, at times, contrary to the original findings, it is important to note that the findings reported here suggest strong aspects of the PEIP. The results show interesting differences in the support networks of poor, unmarried Black and White adolescent mothers, as well as the different ways in which these networks are impacted by participation in an early intervention program. In this way, the present study adds considerably to the body of literature that seeks to investigate the role of social support within the context of intervention programs.

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